False Killer Whale Take Reduction Team
Weak Hook Work Group Teleconference
December 13, 2011

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Objectives

This Work Group was established to continue discussions from the July 2011 TRT meeting related to NMFS' proposed weak hook requirement. The primary purpose of the Work Group is to consider additional analyses and implementation considerations that might inform the Agency's development of a hook requirement in the final Take Reduction Plan rule.

Background Materials Provided

Several documents were provided to inform the Work Group's discussions. These include

- Agenda,
- Excerpts from the October 4 full-team teleconference Key Outcomes Memo,
- Overview of public comments received related to the proposed weak hook requirement,
- Two cumulative distribution plots of bigeye weights from 2005-2009 compared to the October-December 2010 weak hook trials, and
- 2010 Interim Report on NMFS' Gulf of Mexico pelagic longline bluefin tuna bycatch mitigation research.

These documents are included as attachments to this summary.

Summary of key ideas, organized by agenda topic

<u>Need for and value of additional analysis of weak hook data from October-December 2010 trials</u>

- Cumulative distribution plots prepared and presented by K. Bigelow were considered helpful in visualizing and confirming seasonal differences in bigeye weights. They illustrated that bigeye caught in the October-December 2010 study were significantly smaller than those caught in the May-July timeframe.
- Fish value per pound is variable according to weight: larger fish generally have a higher price per pound, if the fish grades well. Markers (bigeyes >100 lbs) make up a significant portion of the economic value of the catch. Trip length also impacts value.
- General agreement among Work Group members that it would not be fruitful to pursue additional analysis of the existing data, as it is unlikely to squarely address fishermen's concerns regarding fish value and seasonality impacts.
- Work Group members gave strong support for a follow-on study:
    - Test circle hooks with 4.5 mm and 4.0 mm wire diameters. Depending on funding availability and timing, possibly examine 4.2 mm wire diameter hooks as well. Use readily available hooks.
    - Study should examine fish value (rather than just fish weight), trip length.
    - May-July timeframe. To begin testing in May, the decision and funding would need to be in place by March; study results may not be available until November 2012, which has implications for their use in the final rule.
    - Any follow-on study should include testing of hooks to gauge opening strength.

- Funding for the study may be a limiting factor:
    - Potential for NMFS external grant funding, but process and details unknown.
    - Having the Hawaii Longline Association (HLA) play a facilitating role (in contracting with captains) is important, but HLA would need further internal discussions about whether this would be possible.
    - Cost of 2010 study was $120k with participation from the agency, New England Aquarium, and some cost sharing with HLA; future study may be higher if testing 3 types of hooks because larger sample size of longline sets would be required.
        - K. Bigelow will conduct a power analysis to determine the number of sets required if testing 3 hook types.

<u>Issues related to hook wire diameter</u>

- Information presented by Roger Dang at the July 2011 TRT meeting suggested the use of 4.5 mm wire diameter circle hooks is not as widespread as previously believed when the draft Take Reduction Plan was prepared. Therefore, a fleet-wide shift to adopt a 4.5 mm wire diameter circle hooks may represent a greater conservation benefit to false killer whales than originally estimated.
- Work Group members discussed issues related to hook corrosion and replacement rate. One Team member noted that all metals used to make commercial fishing hooks corrode in warm, high salinity seawater. The question is how fast they corrode and need to be replaced. One participant mentioned that the stainless steel hooks used by his vessel need to be replaced about twice each year. Another stated that his boat only replaces hooks once per year.
- Some Work Group members showed interest in obtaining an impartial confirmation of the wire diameters of hooks currently in use, possibly by using the PIRO Observer Program to collect hook samples to measure wire diameter. Such a sample could also then be tested to confirm the bending strength of hook types currently in use.
- Other Work Group members others saw this data collection as a lower priority, given the data already at hand (i.e., info on Pacific Fishing & Supply hook sales presented by Roger Dang at the July 2011 TRT meeting represents 60- to 70-percent of the longline fleet; information on the Caucasian fleet presented by other industry representatives on the TRT)
- If this additional data collection is conducted, need to be clear on purpose: Is it to inform NMFS' development of final rule or follow-on weak hook study?

<u>Implementation considerations</u>

- One Work Group member noted that industry's agreement to move to circle hooks was premised on the hook (1) being the "weakest link" in the terminal tackle, and (2) not having an undue impact on catch. The agreement did not address hook specifications such as metallurgy.
- One Work Group member suggested that the hook bending/breaking strength should be specified in the rule, rather than the wire diameter; as was discussed at earlier TRT meetings, others suggested that this would not be viable, primarily because of enforcement considerations.
- Concerns were raised regarding the proposed rule's requirement that hooks be made of round wire

    - Industry representatives stated that there are no circle hooks currently on the market that meet the rule's hook specifications, and the Hawaii longline fleet is so small that global manufacturers may be unwilling to create and manufacture a hook that meets the rule's specifications for the Hawaii fleet only
    - Some Work Group members suggested NMFS allow the hook shaft to be flattened, and only require a small portion of the hook to be round (for enforcement)
    - Several Work Group members encouraged NMFS to focus on hook types that are readily available or easily manufactured; also ensure hook is easily measurable by enforcement
- Work Group members suggested that the hook type specifications in the final rule should match what is tested in the weak hook trial; if that is not the case, additional testing is needed to confirm opening strength.
- Several Work Group members encouraged NMFS to coordinate with HLA to ensure weak hooks specified in the final rule are viable. HLA representatives noted that their comment letter included suggestions for specific language for the rule, and invited NMFS to consult with them if they have questions.
- Weak hook requirements should be adaptively managed as implementation moves forward to ensure their performance meets the intent of the regulation.
- R. Steen reiterated HLA's concerns – expressed in its comments on the proposed TRP rule – that any new weak hook requirement: (1) must have the hook be the weakest part of the terminal tackle; (2) should be as simple as possible and address wire diameter only; and (3) should not require the entire hook be "non-flattened."

Summary of Action Items

- K. Bigelow will perform a power analysis to determine the number of sets necessary to detect a statistical difference if a study were to test three hook types.
- NMFS will explore the potential to conduct follow-on weak hook trial (agency interest/willingness; funding; timeline), in close coordination with industry.
- NMFS will coordinate with Observer Program regarding the possible sampling of hook wire diameters (and bending strength) now in use by the longline fleet.
- NMFS will report back to the team on the outcomes of the Action Items; no follow-on Weak Hook Work Group teleconference was specifically planned.